

Coarse Pitch Gear Hob sharpening

A12-021

Coarse pitch hobs are high performance tools, used for large gear production in hobbing process.

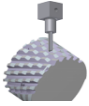

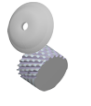

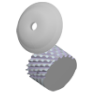




Only a few machies worldwide are able to handle this parts, where the diameter rises up to 20" (508mm) and part weight exceeds 500kg.

The given example is a hob with Ø350mm, 90mm gash depth and 8° spiral angle.

Coarse pitch hobs are sharpened using a corresponding ceramic wheel with an angle. The wheel profile is calculated in Quinto and dressed in the machine in between cycles.



1. Cycletime for Resharpening

Workpiece: Diameter 350 mm, Z 10, Length of cutting edge 360 mm Material HSS					
Operations					
Feed [mm/Min]	2000	400	7000	250	5000
Power [kW]		0	0	0	0
Cutting feed [m/s]		35	35	33	33
Used wheels		 1V1	 1V1	 1V1	 1V1
Grinding time [s]	30	60	1500	90	720
Total cycle time	~ 40 min @ 0.1mm total removal				

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

Roughing = 10x 0.010mm

Dressing after each pass required

Finishing = 4x 0.000mm

Total removal = 0.1mm

2. Used Grinding Wheels

1V1 Ø450 20° A60



3. Machine and Software Requirements

Machines: 5 axes CNC grinder : CORVUS C500

Control: Fanuc 31i

Accessories:

Responsible engineer: SIW 01.2010

Coolant: Synthetic Oil, pressure 6 bar

Software: Quinto 5

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